

II. INTRODUCTION

A. Subcommittee Investigation

In June 2001, following the second consecutive spring price spike in the Midwest, Senator Carl Levin, Chairman of the Senate Permanent Subcommittee on Investigations, directed the Majority Staff of the Subcommittee to investigate the reasons for these increases in the price of gasoline, and, in particular, whether the increased concentration within the refining industry has contributed to these price spikes and increases.¹

The staff's investigation encompassed issues concerning the structure of the domestic refining and marketing industry and the conduct of the participants in these markets.² The staff interviewed representatives from a variety of segments of the industry, including major refining and marketing companies, distributors of refined gasoline, service station owners and dealers, trade association representatives, lawyers and economists.³

The staff reviewed several recent investigations and studies of gasoline pricing, including the Federal Trade Commission's (FTC) Report on the Midwestern gasoline price spike in the

¹ Under Senate Resolution 54, 107th Congress, the Senate Permanent Subcommittee on Investigations (PSI) is authorized to study or investigate "the efficiency, economy, and effectiveness of all agencies and departments of the Government involved in the control and management of energy shortages including, but not limited to their performance with respect to . . . (iii) the pricing of energy in all forms . . . (vii) maintenance of the independent sector of the petroleum industry as a strong competitive force . . . (viii) the allocation of fuels in short supply by public and private entities . . . [and] (xi) the monitoring of compliance by governments, corporations or individuals with the laws and regulations governing the allocation, conservation, or pricing of energy supplies"

² This is commonly referred to as the "downstream" market. The staff did not examine issues associated with the exploration and production of crude oil, or the operation of the OPEC cartel.

³ The Majority Staff interviewed 34 service station retailers/distributors in Michigan and 7 retailers/distributors in the Washington, D.C., area.

spring of 2000, and were briefed by the FTC staff on the results of their three-year investigation into West Coast prices. The staff met with officials from the Department of Energy's Energy Information Administration (EIA), reviewed their findings and conclusions regarding recent price spikes and trends in gasoline prices, and analyzed pricing and supply data provided by the EIA.

The staff also examined industry documents produced in several antitrust and gasoline pricing lawsuits and in several FTC proceedings. Because a number of these documents were originally produced in legal proceedings and not publicly available, the Subcommittee issued subpoenas for many of these documents.

The staff purchased wholesale (rack) price and retail price data from the Oil Price Information Service (OPIS). The information contained daily gasoline price data, by brand, for all of 2000 as well as the first eight months of 2001 from five states: California, Illinois, Maine, Michigan, and Ohio. The staff analyzed, by brand, state-wide average rack prices, state-wide average retail prices, daily price changes, and the rack-to-retail margins.

As part of this investigation the Subcommittee issued subpoenas to a number of major oil companies for relevant refining and marketing documents from 1998 through 2001. In response, the Subcommittee received approximately 103 boxes of documents containing approximately 265,000 pages. The staff reviewed these documents from January 2002 until March of 2002.⁴

⁴ Almost all of the information obtained by the Subcommittee through the issuance of subpoenas was claimed by the originating parties to be "Business Sensitive," "Confidential," or "Proprietary" information, the disclosure of which allegedly could adversely affect the originating party's competitive position. Although the Subcommittee is not obligated to withhold any documents upon such a claim of confidentiality, the Subcommittee has determined not to release the majority of these documents so as not to potentially further impair competition within the industry. In a few instances in which subpoenaed documents or portions thereof are being released, the Subcommittee has determined that the public interest in the disclosure of the

This report presents the Majority Staff's findings regarding recent increases in gasoline prices and volatility, especially with respect to the effect of increasing concentration on the refining industry. First, the report discusses the Majority Staff's findings regarding the causes of recent price spikes and the effect of concentration in the gasoline refining and marketing industry on gasoline prices. The report then describes the operation of the wholesale and retail markets for gasoline and how retail prices are set. Then, the report provides a factual background on how gasoline is produced and marketed.

B. The Importance of Gasoline in the United States

Gasoline is the lifeblood of the American economy. As the largest consumer of oil and gasoline in the world, the United States uses about one quarter of the world's production of oil and over 40 percent of the world's production of gasoline.⁵

In the United States today, there are more than 208 million registered light duty vehicles, including over 130 million cars.⁶ With over 187 million licensed drivers in the country, this equates to more than one vehicle for each driver.⁷ About 80 percent of urban households and over 90 percent of suburban and rural households own cars.⁸ Demand for gasoline for these vehicles accounts for more than 40 percent of the total demand for petroleum products, and

information released outweighs the confidentiality concerns communicated to the Subcommittee.

⁵ Energy Information Administration, *International Energy Annual 1999*, at <http://www.eia.doe.gov/emeu/iea/table12.html>; <http://www.eia.doe.gov/emeu/iea/table35.html>.

⁶ Federal Highway Administration, *Highway Statistics*, 1998; Cambridge Energy Research Associates, *Gasoline and the American People*, July 2001 Update, at 4.

⁷ *Gasoline and the American People*, at 4.

⁸ Consumer Federation of America, *Ending the Gasoline Price Spiral*, July 2001.

accounts for about 17 percent of the total energy consumed in the nation.⁹ This gasoline is dispensed to the public at nearly 176,000 service stations located throughout the country.¹⁰

“Over the last half century, Americans’ driving has increased more than 600 percent, and their use of gasoline has almost quadrupled – from 35 billion gallons to over 130 billion gallons.”¹¹ In 2000, the average driver drove nearly 13,200 miles, used about 700 gallons, and paid about \$1,060 for gasoline.¹² At this rate of consumption, each dime increase in the price of gasoline costs a consumer approximately an additional \$1.50 per full-tank fill-up, or \$70 per year. According to an industry rule-of-thumb, each dime increase in the price of gasoline adds approximately \$10 billion in revenues to the oil industry.

C. Recent Increases In the Price of Gasoline

In the past three years gasoline prices in the United States have been extraordinarily volatile. (See Figures II.1 and II.2 on pages 29 and 30.) The current price roller-coaster began its ride in February 1999, when the national average price for regular unleaded gasoline fell to just over 95 cents per gallon, a record low in constant dollars.¹³ By June 2000, the price had risen approximately 80 percent, to \$1.70 per gallon. Overall, from 1999 to 2000, the average

⁹ Energy Information Administration, *Restructuring the Changing Face of Motor Gasoline*, March 2002, at 1; *A Primer on Gasoline Prices*, July 2001.

¹⁰ *Restructuring the Changing Face of Motor Gasoline*, March 2002, at 1.

¹¹ *Gasoline and the American People*, at 5. This is approximately 8.4 million barrels per day. One barrel equals 42 gallons.

¹² *Gasoline and the American People*, at 2.

¹³ American Petroleum Institute, *How Much We Pay for Gasoline*, April 2001 Review, at 4.

annual price of regular unleaded gasoline jumped from \$1.16 to \$1.51 per gallon.¹⁴ This one-year increase of 35 cents has been matched only once in history – by the 34-cent increase in 1980 that followed the Iranian revolution and the outbreak of war between Iran and Iraq.¹⁵

Certain markets, especially in the Midwest, have seen particularly sharp increases. (See Figures II.3 and II.4 and pages 31 and 32.) For example, during a three-week period in the spring of 2000, the retail price for reformulated gasoline (RFG)¹⁶ in Chicago rose almost 30 cents, from \$1.85 per gallon on May 30 to \$2.13 on June 20. Over the next month prices in Chicago fell 56 cents, to \$1.57 on July 24. At the peak of the Midwestern spike, the wholesale price of RFG in Chicago had risen from being equal to the wholesale price in Dallas to more than 45 cents above the wholesale price in Dallas.¹⁷ Similar increases were seen in other Midwestern cities.

In the spring of 2001, the price of gasoline in the Midwest spiked again. For example, in the first seven days of May the average price for regular grade gasoline in the Saginaw-Bay City-Midland region of Michigan rose approximately 26 cents – from \$1.65 to \$1.91 per gallon. Within the next two weeks the average price slipped to \$1.73 per gallon, a drop of 18 cents. In the next two days, however, prices climbed 20 cents, so that by May 25 the average price had risen back up to \$1.93 per gallon. Similar increases occurred elsewhere in Michigan. The EIA

¹⁴ American Petroleum Institute, *How Much We Pay for Gasoline*, April 2001 Review, at 4. The average prices for mid-grade and premium exhibited similar behavior. *Id.*

¹⁵ API; P.K. Verleger Jr., *Third Oil Shock: Real or Imaginary?*, Oil and Gas Journal, June 12, 2000.

¹⁶ See Section III.E for a description of RFG.

¹⁷ Final Report of the Federal Trade Commission, *Midwest Gasoline Price Investigation*, March 29, 2001.

noted that although not “outside the realm of market behaviors of market behaviors seen previously,” this level of volatility was “somewhat extreme.”¹⁸ Moreover, the EIA observed that these rapid increases were not due to any significant supply problems, such as refinery or pipeline outages, that would have disproportionately affected prices in Michigan.¹⁹

Just before the Labor Day holiday in 2001 the average retail price for regular grade conventional gasoline in the Midwest again rose abruptly. By mid-summer, as a result of a seasonal increase in production as well as the price run-up in the spring, gasoline supplies in the Midwest had increased by a sufficient amount to drive prices down to about \$1.30 per gallon by the Fourth of July. Prices then rose by 3 cents from mid-July through the first week in August. In the second week of August, however, prices in the Midwest rose quickly, reaching \$1.70 per gallon by Labor Day – nearly a 40-cent increase in less than one month. By contrast, from 1992 through 1998 average prices in the Midwest had not varied by more than 24 cents in any one year.²⁰

On September 10, 2001, the average national price stood at \$1.52 per gallon.²¹ The average price for conventional gasoline in the Midwest was about \$1.63 per gallon.²² In a

¹⁸ EIA, *A Brief Analysis of Michigan Gasoline Price Behavior During May 2001*, June 14, 2001.

¹⁹ EIA, *A Brief Analysis of Michigan Gasoline Price Behavior During May 2001*, June 14, 2001.

²⁰ EIA Data at <http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvrmw.xls> (Midwest prices).

²¹ EIA, U.S. Retail Gasoline Prices, at <http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwreg.xls> (national average prices).

²² EIA Data, at <http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvrmw.xls> (Midwest prices).

number of local markets, prices were higher. In Chicago the price for regular unleaded reformulated gasoline was about \$1.84 per gallon, as was the price in San Francisco for regular unleaded California-standard (“CARB” gas) gasoline.²³ In Los Angeles, California, the average price for regular CARB gasoline was \$1.60 per gallon.²⁴

The terrorist attacks of September 11, 2001, disrupted a jittery domestic economy that already was on the verge of recession. The transportation and energy industries were affected immediately. Air travel virtually ground to a halt in the days after the attack. In the week after the attacks Americans stayed off the highways as well – weekly gasoline consumption dropped by almost 9 million gallons, the equivalent of a whole day’s worth of gasoline consumption across the entire country.

With the economy in a recession, a slump in airline and automobile travel, and a warmer-than-normal winter, jet fuel, gasoline, and heating oil consumption declined and stocks rose. With decreased demand for product, crude oil stocks rose as well. As inventories grew, prices fell. By the end of October, the national average price for regular unleaded gasoline had fallen about 30 cents from its level in early September. In the Midwest, prices dropped 46 cents in the 6 weeks following the attacks. At this time the EIA reported, “In total, the national average

²³ EIA Data, at <http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwyh.xls> (Chicago prices); <http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwysf.xls> (San Francisco prices). “CARB” is the gasoline formulation required under the California Air Resources Board Phase II regulations. CARB gasoline was first introduced in California in 1996. CARB gasoline must meet more stringent standards for nitrogen oxides (NOx) and aromatic emissions; it is expected to reduce smog-forming emissions from motor vehicles by 15 percent and reduce cancer risk from exposure to motor fuel toxins by approximately 40 percent. See, e.g., Attorney General of California, *Report on Gasoline Pricing in California* (1999).

²⁴ EIA Data, at <http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvwyla.xls> (Los Angeles prices).

retail gasoline price has fallen nearly 48 cents from its peak on May 14. This is already the widest one-year range in retail prices since EIA began its weekly survey in 1990, and it's all occurred in the past 5 months."²⁵ By mid-December, after the national average price had fallen another 15 cents, the national average retail price bottomed-out at \$1.04 per gallon.²⁶

What initially began as a slow creep upwards in price turned into a rocket by early March, 2002. "As another March unfolds, retail gasoline prices have begun their now familiar rise," the EIA reported on March 13, 2002.²⁷ The previous week the average U.S. retail price jumped 7.9 cents per gallon, to \$1.22 per gallon, "the second largest 1-week increase since EIA began this survey in 1990."²⁸

Prices have continued to rise. From early February to early April, prices increased an average of just over 30 cents, with the national average price for unleaded regular gasoline jumping from about \$1.10 per gallon to over \$1.41 per gallon. In California, prices have risen 37 cents in 8 weeks and about 50 cents since the first of the year. In the Midwest, prices have risen nearly 34 cents in 8 weeks; in Chicago they have risen almost 49 cents during this period. According to the EIA, these 8-week increases are the second highest in history.

D. Economic Effects of Increases in the Price of Gasoline

Sudden increases in gasoline prices are costly to the consumer and disrupt our economy. Following last spring's increase in gasoline prices, Federal Reserve Chairman Alan Greenspan

²⁵ EIA, *Why are gasoline prices falling so rapidly?*, October 29, 2001.

²⁶ EIA, <http://tonto.eia.doe.gov/oog/ftp/area/wogirs/xls/pswrgvwnus.xls> (national prices).

²⁷ EIA, *This Week In Petroleum*, March 13, 2002.

²⁸ Id.

explained the harmful effects of rising energy prices, including the price of gasoline. Chairman Greenspan considered the “run-up” in gasoline prices in the spring of 2001 to be “of particular concern because in the past steep increases in the price of gasoline have arguably undermined both the real purchasing power and the confidence of consumers. This effect has likely been an avenue through which previous spikes in the price of crude oil have slowed economic activity. The jump in gasoline prices from March through May was wholly the result of a twenty-cent per gallon surge in gross refining margins. By contrast, refinery acquisition costs of crude oil changed little over that period.”²⁹

Indeed, there is evidence Chairman Greenspan’s pessimistic projections proved accurate. In March 2002, the Wall Street Journal reported “OPEC production cuts – and subsequent spikes in oil prices – are widely seen as one factor that pushed the U.S. into recession last year.”³⁰ Increasing energy prices continue to hurt the economy. The Washington Post reported that March 2002 saw the largest increase in producer prices for finished goods in more than a year and attributed this increase to a 5.5 percent jump in energy prices.³¹

Although detrimental to the consumer, the recent increases in the price of gasoline brought higher profits to the refiners and certain retail marketers of gasoline. “After explosions at Conoco Inc. and Tosco Corp. oil refineries in April, consumers felt the effects almost immediately.” Bloomberg News reported last June. “Gasoline prices in the U.S. jumped 9

²⁹ Remarks by Chairman Alan Greenspan, *Impact of energy on the economy*, Before the Economic Club of Chicago, Chicago, Illinois, June 28, 2001.

³⁰ Thaddeus Herrick and Bhushan Bahree, *As OPEC Maintains Curbs on Oil Output, Rising Prices Could Jeopardize Recovery*, Wall Street Journal, March 18, 2002.

³¹ John M. Berry, *Energy Costs Spur Increase in Producer Prices*, Washington Post, April 13, 2002.

percent to a record at the pump.” At the same time, refiners reaped benefits. ““The second quarter will be great,’ one market analyst predicted.”³²

The low inventories in the spring of 2001 that led to the May price spikes in the Midwest also led to higher profits for refiners. In fact, according to the EIA, “Earnings from the majors’ domestic refining/marketing operations increased 78 percent [in the second quarter of 2001 as compared to the second quarter of 2000], primarily due to a merger, higher refining margins, higher throughput, and higher product sales.”

Refining margins (the per barrel composite wholesale product price less the composite refiner acquisition cost of crude oil) increased by more than \$6 per barrel because of higher product prices, particularly on the West Coast and in the Midwest. Almost all companies reported higher product margins. One reason for higher margins was the reduced inventory costs achieved by the U.S. majors as evidenced by the relatively low level of U.S. motor gasoline stocks, which were 8 percent lower during Q201[1st quarter 2001] than the Q2 [1st quarter 2002] average over the 1995 to 1999 period.³³

For the year 2000, net income for major energy companies from refining and marketing was up 57 percent from income in 1999.³⁴ “Tight supply conditions together with sporadic price spikes for gasoline and distillate led to a widened spread between refined product prices and crude oil input costs.”³⁵

³² Alex Lawler, *Oil Companies to Profit on Refining Gains: Outlook (Update 1)*, Bloomberg Energy News, Bloomberg.com, June 27, 2001.

³³ EIA, *Financial News for Major Energy Companies*, April-June 2001, at http://www.eia.doe.gov/emeu/perfpro/news_m/index.

³⁴ EIA, *Performance Profiles of Major Energy Producers 2000*, January 2002.

³⁵ Id.

Conversely, high inventories and low product prices depress refining and marketing profits. The recession and price collapse in energy markets in the second half of 2001 led to dramatically lower profits for oil companies as compared to their performance in 2000.

E. Increasing Concentration in the Refining Industry

A large number of mergers and acquisitions in the oil industry in recent years has led to a significant consolidation of refining assets. In 1998, Marathon and Ashland Oil merged their downstream assets. Also in 1998, British Petroleum (BP) merged with Amoco, and then in 2000 acquired ARCO in an all-stock deal valued at \$27 billion. In 1999, Exxon Corporation merged with Mobil Corporation, through an exchange of assets valued at \$79 billion, to create the world's largest publicly-traded energy company. In 2001, Chevron (which had acquired Gulf Oil in 1994) completed its \$46 billion acquisition of Texaco's upstream capabilities, to create the second-largest U.S. oil company. Also within the past year, Shell Oil completed its acquisition of all of Texaco's domestic downstream assets; Phillips acquired Tosco, a major independent refiner; and then announced its merger with Conoco, which will create the largest refiner in the United States and third-largest U.S.-based oil and gas company. Additionally, Valero paid \$3.7 billion to acquire Ultramar Diamond Shamrock (UDS), which created the third-largest refiner in the nation.

According to the EIA, "In recent years, the growth in the major energy companies' U.S. reserve base has come increasingly from mergers and acquisitions."³⁶ The frenzy of mergers and acquisitions accounted for nearly all of the growth in capital expenditures by U.S. energy companies between 1999 and 2000. (See Figure II.5 on page 33.)

³⁶ EIA, *Performance Profiles of Major Energy Producers 2000*. By 2000, over 60 percent of the companies' total additions to reserves were gained in this way, up from an average of slightly over 10 percent in the 1990 to 1996 period.

This wave of mergers has followed a general consolidation of assets within the refining industry over the past two decades. In 1981, 189 firms owned a total of 324 refineries; by 2001 65 firms owned a total of 155 refineries, a decrease of about 65 percent in the number of firms and a decrease of about 52 percent in the number of refineries.³⁷ Although the number of refineries has decreased, as a result of capacity expansions and improvements in efficiency, the average refining capacity in the United States has increased, so that the total refining capacity is just below the level it was twenty years ago. (See Figures II.6 and II.7 on pages 34 and 35.) During this period the market share of the ten largest refiners increased from 55 to 62 percent.³⁸

³⁷ Information provided to the Subcommittee by the Energy Information Administration, August 7, 2001.

³⁸ There has been a change in the composition of these top ten companies from exclusively major integrated companies in 1981, to the majority being non-integrated refiners. These independent refiner/marketers, who have no significant crude oil production, have through acquisitions amassed approximately 23 percent of all the refining capacity in the U.S.. In 1981 all ten of the companies were fully integrated oil companies, but by 2001 only four of the companies were integrated. However, although 7 of the top 10 refiners were not fully integrated companies, all of those 7 own one or more chains of retail outlets.